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Telestroke

The Experience to Date

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Agenda

- **Telestroke**
  - **Scope of support**
  - **How do we do it**
  - **How does it work**

- **Appreciation**
  - **Swedish Foundation and the Murdock Charitable Trust**
  - **Our clinicians, IT, QI and support staff**
  - **Telestroke partners**
  - **American Heart Association and WSHD for their promotion of equitable stroke care**

Disclosures: Medical Director of Stroke/Telestroke at Swedish Medical Center: a provider of telestroke services

Swedish Medical Center and its Partners

- History of the program
  - 2006 internal Telestroke Program
    - Ballard and Issaquah
  - Telestroke Partners
    - Jefferson Health Care, Skagit Valley Hospital, Lake Chelan Community Hospital, Yakima Memorial, Central Washington Hospital, Olympic Medical Center, Stevens Healthcare

Background

- **Emergency room physicians are often reluctant to administer alteplase without the guidance of a neurologist**
- **Many community hospitals do not have access to important stroke related resources**
  - **WA State data (2008):**
    - **50.7% of hospitals that admit stroke patients have a neurologist available (on-staff)**
    - **37% have a neurologist available 24X7**
    - **18.3% of hospitals have a stroke response team**
- **Stroke care has changed: a portion of people may benefit from tertiary care**

Background

- Administration of alteplase presents an opportunity to improve patient outcomes

- Short window of administration
- Require accurate diagnosis
- Safety precautions
- Risk: ICH
- Current national treatment rates 3-8%

Policymakers and Providers Respond

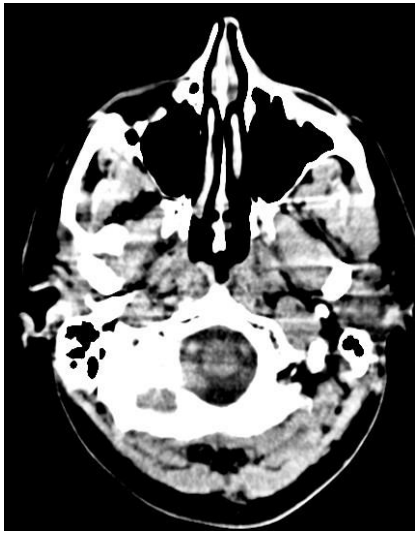
- **Current efforts to address this issue**
  - **State Programs:**
    - **WA, MA, NY, CA, FL, Regional Programs**
- **Options exist to help community hospitals meet the needs of the acute stroke patient**
  - **Rely on local community resources**
  - **Telephone support model**
  - **Telemedicine support model**
  - **Admit some/all/none of acute stroke patients**

Telestroke

- **Unites by video and audio**
  - **Patient and/or family at bedside**
  - **Distant healthcare providers**
  - **Color, real time**
  - **Video remote control to pan, zoom, tilt**
- **Bidirectional flow is possible on Broadband**
- **“Telephonic” Unidirectional flow currently characterizes mobile phone technology**

Technology Overview

- **Technical Platform**
  - Fully HIPPA compliant
  - Videoconferencing equipment
  - Reliability and ease of use
  - Web based consult note
  - CT Image transfer



Our assessment and programmatic response

- **Thrombolytic readiness at each ED**
- **Consultative support**
  - **Tele-visually present**
- **Decision making:**
  - **IV thrombolysis**
  - **next steps**
- **Patient oriented**
  - **Keep patient local**
  - **Provide optimal opportunity for tertiary care interventions**
- **QI program**

Anecdotes

- **Bottom line: Trained staff, patient exam, visualization of images and personalized contact with the remote site are processes that lead to better patient care**
- **Quality of emergent and subsequent care is the product value not # of Telestroke Consults treated with tPA**
- **Lady on the Island**
  - **What you can do**
  - **Our ED can't do it**
  - **Consultants plus Universal availability at ED near you**
- **Woman at a small community hospital: Telephone consult**
  - **65 yo woman: sudden right hemiparesis**
  - **Warfarin for AF: INR 2.2**
  - **Telephone consult**
  - **During discussion tPA infused**
  - **QI?**
  - **Needs include training of ED team to avoid misadventures**
- **Emergent tertiary care**
  - **45 yo woman with right hemiparesis**
  - **CT: clot in mca**
  - **tPA and after quick helicopter trip Merci clot removal**
  - **Now functional at work**
  - **Trained, identification of opportunity, care provided**

Anecdotes

- **The ambulance came with sirens and family not far behind: Telephone consult.**
  - **45 year old man: dysarthria + facial weakness**
  - **Ambulance to SMC**
  - **Dx Bells Palsy**
  - **Direct visualization aids Dx and Transfer decision: $$**

- **I need my hand to work**
  - **45 yo woman: Low NIH**
  - **Would not have been treated**
  - **Anxious**
  - **Informed consent: face to face by specialist**
  - **Delighted with personalized care**
  - **Back to work**
  - **Better Dx and Informed consent process = improved patient satisfaction. Would not have worked as well with Telephone support**

- **Right diagnosis**
  - **62 year old woman: subtle seizure + weakness**
  - **Referred to our Brain Tumor Service**
  - **Tele exam of patient and CT scan by neurologist supplemented radiologist view of films**
  - **Better Dx by visualizing patient: Image review valuable**

Video demonstration

- **Highly scripted**
  - Teams are trained
  - Comprehensive vs telephone
  - QA/QI/QD program
- **Highly trained on both ends**
  - Remote site ED is equivalent to Base ED
- **Focused on a specific issues**
  - tPA decision
  - Transfer decision
  - Safety of aftercare

Our experience to date

- Distributed widely at our internal and external sites
- Treated persons who might not have been tx
- Did not treat patients who should not have been treated who might have been treated
- Provided comfort to patients who benefited from a face to face meeting with our staff
- Appropriate Transfers: Arranged and avoided costly transfers
- Developed close working relationships with clinicians, administrators, support personnel through mentoring, and the application of quality assurance processes

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Questions

- Dr. Bill Likosky

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